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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/541,169	06/30/2005	Hendrik Dirkzwager	TS1227 US	4387

23632 7590 04/17/2007
SHELL OIL COMPANY
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HOUSTON, TX 772522463

EXAMINER

PARSA, JAFAR F

ART UNIT	PAPER NUMBER
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1621

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/17/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/541,169	DIRKZWAGER ET AL.	
	Examiner	Art Unit	
	Jafar Parsa	1621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>6/30/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 7, line 10, the phrase "hydroformylating optionally followed by at least one step selected from the group consisting of alkoxyating, glycosylating, sulfating, phosphatizing and combinations thereof". It is not clear that the hydroformylation is followed by at least one of the group or combination thereof as recited above or the hydroformylation is followed by combination of sulfonating; epoxidizing; hydrobrominating followed by aminating and oxidizing and to amine oxide; and phosphonixing.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

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2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 3-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lickus et al (USPN 3,239,455) in view of O'Rear et al (USPN 6,392,109 B1).

Applicants' claimed invention is directed to a process for the preparation of detergents involving separating the hydrocarbonaceous product stream from a Fischer-Tropsch process producing normally liquid and normally solid hydrocarbons into a light fraction mainly C₁₈ hydrocarbons and one or more heavy fractions, hydrogenating at least part of the light fraction to convert unsaturated hydrocarbons and/or oxygenates into saturated hydrocarbons, distilling product thus obtained into at least one fraction comprising detergent hydrocarbons, dehydrogenating at least part of the detergent hydrocarbons to obtain a detergent hydrocarbon stream having mono-olefins and converting the mono-olefins into detergents. The invention further concerns a process for the preparation of detergents in which process a hydrogenated product, which is obtained according to the above process, is dehydrogenated to obtain a detergent hydrocarbon stream of mono-olefins, followed by conversion of the mono-olefins into detergents.

Lickus teaches a process for preparing hydrocarbons, which is suitable for the production of many types of detergents requiring long chain alkyl group. Lickus teaches that the hydrocarbon products formed in the Fischer-Tropsch process is fractionated to separate a cut boiling up to about 650⁰F and above 650⁰F. See col. 1, lines 40-43 and col. 3, lines 63-70. In one embodiment Lickus teaches that separating a relatively

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straight chain aliphatic hydrocarbon from normally liquid hydrocarbon mixture then catalytically hydrogenating said liquid hydrocarbon mixture to reduce at least the olefinic unsaturation in the hydrocarbons said mixture. See col. 2, lines 36-42. Lickus also teaches that the naphtha boiling range fractions are useful as a source of paraffins for conversion to normal olefins via dehydrogenation. See col. 1, lines 64-67.

The difference between Lickus and the instant claims is that the light fraction is comprising mainly of C_{18} hydrocarbons. However, in a similar process for preparing detergents from Fischer-Tropsch product O'Rear teaches that hydrocarbons are isolated from the resulting product stream. The C_{6-8} is subjected to catalytic reforming conditions to form aromatics. The C_{18-26} fraction contains sufficient olefins for use in alkylation reaction with the aromatics. The fraction may be subjected to dehydrogenation conditions to provide additional olefins. The resulting olefins are reacted with the aromatics in an alkylation reaction to yield alkylbenzene. The resulting alkylbenzenes can be sulfonated to prepare detergents. See abstract and Figure 1.

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to isolate a fraction mainly containing C_{18} hydrocarbons to obtain olefinic hydrocarbons, which are useful as components for making detergents as taught by O'Rear et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jafar Parsa whose telephone number is (571)272-0643. The examiner can normally be reached on 8 a.m.-4:30 p.m. (M-F).

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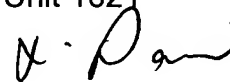
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thurman Page can be reached on 571-272-0602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JP

April 14, 2007

Jafar Parsa
Primary Examiner
Art Unit 1621



J. PARSA
PRIMARY EXAMINER